



1920 yearbook photo

HARVEY W. HOUSE

(1897 – unknown)

INTERVIEWED BY
RUTH POWELL

April 16, 1981

ARCHIVES
CALIFORNIA INSTITUTE OF
TECHNOLOGY
Pasadena, California



Subject area

Throop, alumnus

Abstract

An interview with Harvey W. House, graduate of Throop College of Technology, which in 1920 became the California Institute of Technology. Mr. House entered Throop in the fall of 1915 and graduated with a BS in chemical engineering in 1920.

Born in Tientsin, China, to missionary parents; Christian-oriented upbringing. Move to Los Angeles. High school interest in chemistry and physics leads him to choose Throop; student loan from Olive Cleveland Loan Fund. Rooms in East Pasadena (Lamanda Park); commutes by bicycle.

Recollections of President James A. B. Scherer; electrical engineering professor Royal W. Sorenson; dean of engineering George Damon; mathematics professor

H. C. Van Buskirk; Throop curriculum. Church activities. Humanities under Clinton Judy; fellow student Frank Capra; chemistry professor Howard Lucas. Summer job at Baker Iron Works. Caltech football; pole rush; Big T; 1916 establishment of ROTC and YMCA; Pasadena ambulance corps. 1917-18, half year at Maryville College, Tennessee; Camp Kearny, San Diego; sickness. Returns to Caltech; Student Army Training program. Armistice. Arrival of R. A. Millikan to head Caltech. 1920 commencement; teaches chemistry in Canton, China; master's degree from Caltech in 1926.

Administrative information

Access

The interview is unrestricted.

Copyright

Copyright has been assigned to the California Institute of Technology © 1982, 2020. All requests for permission to publish or quote from the transcript must be submitted in writing to the University Archivist and Head, Special Collections.

Preferred citation

House, Harvey H. Interview by Ruth Powell. Pasadena, California, April 16, 1981. Oral History Project, California Institute of Technology Archives. Retrieved [supply date of retrieval] from the World Wide Web: http://resolver.caltech.edu/CaltechOH:OH_House_H

Contact information

Archives, California Institute of Technology
Mail Code B215-74
Pasadena, CA 91125
Phone: (626)395-2704 Fax: (626)395-4073
Email: archives@caltech.edu

Graphics and content © 2020 California Institute of Technology.

CALIFORNIA INSTITUTE OF TECHNOLOGY ARCHIVES

ORAL HISTORY PROJECT

INTERVIEW WITH HARVEY W. HOUSE

BY RUTH POWELL

PASADENA, CALIFORNIA

Copyright © 1982, 2020 by the California Institute of Technology

CALIFORNIA INSTITUTE OF TECHNOLOGY ARCHIVES
ORAL HISTORY PROJECT

Interview with Harvey W. House
Pasadena, California

by Ruth Powell

April 16, 1981

POWELL: Would you like to start by telling us when you were born and where?

HOUSE: To tell you where I was born, I have to begin with my father and mother. Both sides of my family were very much Christian-oriented. They were church people with a very strong evangelistic impulse, and my father was brought up in that environment, where they got on their knees and prayed every morning for this, that, and the other thing, including foreign missions.

The one thing my father loved more than anything else in the world was steam engines. And this brought him onto the Lakes, and he became a steam engineer and ran steamboats on the Great Lakes, hauling lumber from one place to another.

[Later], although he was something like twenty-eight years old, he determined to go to school and finish preparation and go to college. He went to Oberlin College [in Ohio], and studied for the ministry, and then went to McCormick Theological Seminary [in Chicago]. While there, he had a student church in Oak Park, where he met my mother, who played the piano. Then he got a full-time church in Saint Croix Falls, in Wisconsin.

Well, while there, he got the word that the Temperance Society in Tientsin, China, had a clubhouse for sailors, American sailors, to keep them out of trouble—a home for sailors in Tientsin. So the net result was that my father and mother went to Tientsin. So that's where I was born, in 1897. [When] the Boxer Rebellion came along, they were able to get out of China in time to save our lives.

POWELL: So that's when you came to Los Angeles?

HOUSE: No, no. I was a child then, and we went to our family headquarters in Oak Park, Illinois. I grew up in that area, and finally in White Plains, New York. But it wasn't until about 1910 that the family moved to Los Angeles. So, I came to Los Angeles and went to Manual Arts High School, which at that time was an all-white high school, with the exception of maybe one or two black people. As I remember it, there was just one black person in our graduating class.

POWELL: Was it about this time that you began to look at Throop [College of Technology] as a place to go?

HOUSE: Yes, during my junior or senior year in high school, my father came over to Pasadena to promote [the interests of a Christian college in China]. When he got back from China, he was so full of the idea of establishing a Christian college in China that through a rather dramatic series of circumstances he got in touch with the board of directors [of the Christian College in New York], who were trying to do that very thing in Canton, in South China. So, for the next fifteen years, during my boyhood, he worked [on that project], and I was brought up praying for China every morning. He was in that process when he visited Pasadena, [contacting various persons, including Throop president Dr. James A. B. Scherer].

POWELL: By this time had he, of course, given up on the steamboating?

HOUSE: Oh yes, he had given up on that years and years ago. When he went to China in the first place, he gave up his steamboat engineering.

POWELL: Had his work as a steamboat engineer influenced you in your decision of what you wanted to do?

HOUSE: I can't really say that it did, although father was painstaking in explaining to me mechanical principles, and he always favored my studying technical matters. Though he wanted very much for me to get a thorough classics education, which accounted partly for my losing a year halfway through, in order to go to a small college in Tennessee.

POWELL: That's when you were at Throop?

HOUSE: Yes, when I was in Throop College.

POWELL: You entered here in the fall?

HOUSE: In the fall of 1915.

POWELL: And then when did you break?

HOUSE: Well, I was going to tell you about how I got interested in—

POWELL: How you happened to come. OK.

HOUSE: In high school, I did develop a great interest in chemistry and physics and so on. I had a friend who became a doctor, and we were always fooling around in the chemical lab and doing things like that. So, I developed that interest in high school. And one day after Father had been to Pasadena, I just picked up, in our home, a little catalog [This was the catalogue of Throop College of Technology that had been given to Father by Dr. Scherer. —H. W. H.], with an inch-thick brown cover. And in it, it said, "This is the place for men to work and not boys to play." They said so much about the high quality of the engineering school they proposed to build that I thought, "By George, if I get through there, I'll really be somebody!" I thought that. I never had any idea of ever going anywhere else, after I read that catalog. It was a very inspiring small document.

POWELL: Did you talk with your father about it?

HOUSE: Well, of course, I told him what— It's a strange thing. My parents never tried to influence me in where I would go. When I went to high school, they never said anything about the kind of course I should take, they just expected me to make a mature decision. I was an only child, their main hope and joy. Very much loved, protected, and cared for.

POWELL: What kind of qualifications did you have to have to get into Throop?

HOUSE: Well, I have to acknowledge I think it was a lot easier to get into then than it is now.

POWELL: There wasn't so much competition, shall we say?

HOUSE: No, no. I would never have made it today, I know that, definitely. When I was a sophomore in high school, I got notices that I was flunking in three subjects all at once. So I went to talk things over with the principal and got tutoring in Latin, dropped algebra and worked harder on the other subjects, and finally made it through the year, and then made up by going to summer school. So, I was certainly not a brilliant student in high school, if ever. I did do a year of physics in the last summer before coming to Throop. But there again, I didn't make A's. I got B's. I was really a B student throughout high school, and I even had one condition in trigonometry, in which I had only made a C.

The last summer, after summer school was over—or it may have been next to the last summer—I got a job on a farm in Anaheim, taking care of it with the understanding that I could work on other farms when the chores were done on that little five acres. So, I lived there under a water tower and did the chores, took care of the horse and fed the chickens and so on, in the absence of the owner, and every day studied my book on trigonometry. I will say I learned it far better than I had ever approached when I was in school.

So, then I had to apply for a loan fund, the Olive Cleveland Loan Fund, and I wrote my applications, gave them my record, such as it was, and to my delight I was accepted and given a loan.

POWELL: Was that just for the first year?

HOUSE: Just for the first year. I may have had a loan for the second year also, but I made it that way in the first year. So, I'm one of those who knows perfectly well that I would never have made it in at this time. But I will say this: When I did get in and came here, I was inspired.

POWELL: Did you see the campus before you came to enter?

HOUSE: Yes, I came several days before that, to look for a place to stay. My father—they had a little fund—wasn't earning much. He had a little fund and he could help me a little, but not much. So, I combed the city to find the cheapest possible place, and I found an attic room in a house that still exists on South Marengo for \$6 a month with room care included. And so I got started there.

POWELL: Did this include any meals?

HOUSE: No, no. I had a pint of milk delivered each day, and I bought a loaf of brown bread, and ate one meal in the cafeteria. After I'd been there a month or so, I met an old friend riding a bicycle on the street, who was a gardener raising chrysanthemums, and he invited me to come out to East Pasadena, then called Lamanda Park, to live with him. So I saved that \$6 a month by living with him for nothing. And we just batched it out there together. I still remember those beautiful yellow chrysanthemums that he raised—in the fall of the year, they were coming out, and I think of those chrysanthemums as a part of my freshman experience.

POWELL: Well, how did you get down to school?

HOUSE: Bicycle. I rode an old bicycle to school. But I can't describe really what a thrill that first class was. I've forgotten how large the class was. We all met in the small assembly hall, which was just to the right of the entrance as you walked into Throop Hall [then called Pasadena Hall; name changed to Throop Hall in 1920—ed.]. There were only two major buildings on the campus then: Throop Hall and the dormitory. And a small building for hydraulics engineering, close by Throop Hall. That's all. But everything literally went on there in Throop Hall. Apollo was right there in the center.

POWELL: Did someone speak to you, as an assembly? President Scherer, perhaps?

HOUSE: President Scherer, of course, spoke to us and welcomed us. He had a great quality of inspiration about him. He was a Lutheran minister, as is well known. He had a quality of inspiration, and he made us all feel that we were really into something great. And then there was Professor [Royal W.] Sorensen, in electrical engineering, and he had a class in orientation, which I still remember—Efficiency in Living. He had us outlining our day, and for every minute of the whole day, planning it in advance and then as far as possible sticking to it. And simple things he'd say, like, "Now hang your clothes all up in the same way every night, so you can put them on efficiently. And do the same thing at the same time every day." So, he made us conscious of the value of time and how to organize it.

POWELL: Was he an enthusiastic person, too?

HOUSE: Oh, yes. The central characteristic of Throop College at that time was enthusiasm. He had great enthusiasm. Then there was another one, George A. Damon. He was a dean. His great hobby was city planning.

POWELL: At that time?

HOUSE: At that time. I happen now to be involved in certain interests in the city of Pasadena, and as I go down to our City Hall, I have the feeling there's George A. Damon sitting on my shoulder, saying, "Go to it, Harvey."

POWELL: Was he teaching a class that related to city planning?

HOUSE: No, he wasn't teaching a class in city planning, but he got that into everything he did. He had also a class related to Sorensen's in orientation; in fact, he may have taken some of the sessions. One of the remarks attributed to him was, for example, "Oh, boys, don't worry about making money. You do what you like to do, and the money will come."

POWELL: Well, you went in to take chemical engineering?

HOUSE: I didn't know anything about chemical engineering; all I knew was that it was a combination of chemistry and engineering, and I just felt, "Well, that's for me. I like it."

Among those professors, I remember the young fellow who was teacher of mechanical drawing. In my freshman year of high school, I had really flunked out of mechanical drawing—a poor [drawing] set, and everything I did was crude, and my sheets were messy. The instructor finally suggested that I take penmanship, which I did, with great benefit. But when I came to Caltech, to Throop, I got a good drawing set, and the teacher taught us the rudiments from the very beginning: How to sharpen a pencil; to look at a line with a magnifying glass, and when two lines [met, as a tangent to a circle, the zone where the circle and the tangent met must be no broader than either one by itself]. So, you'd look at the thing with a magnifying glass if you had to, to see if you were doing it right. This appealed to me enormously. So, I had a chance then to make good on drawing. He later said to me, "Well, you seem to take to it a little better than some of the others." It was an amazing transformation in four years.

So, I knew that it was tough to get through this thing, and I resolved I would. We had a course in computation by Professor [Harry Clark] Van Buskirk, a holdover from the old Throop Academy. He was another great teacher. He showed us how to handle figures. How to subtract: Instead of saying, "So-and-so from so-and-so leaves so much," he would say, "Well, the easy way is to say, so-and-so plus so much makes what you are subtracting from." So, I learned that routine. I was resolved to learn everything that was taught me. I still remember that course in computation, which was a very good course. Then came analytic geometry, which to me was a delight. Absolute delight.

POWELL: Did most of the students respond this well, do you think, at the time?

HOUSE: I think many of them did. Yes, there was an *esprit de corps*. It used to be said that the students of that day were better pipefitters than they were solvers of differential equations, and I think this was generally true. There were some fellows who had a little bit tougher exterior than others.

POWELL: There was an emphasis, would you say, on the practical education?

HOUSE: There was more emphasis on engineering than there was in the higher branches of research, at the beginning. So, I wasn't too far out of place with these other guys.

POWELL: You wanted a practical education?

HOUSE: Yes. I was really more interested in building factories and building plants than I was in chemical research. I wanted to know chemistry, but it took me a long while to really get the feeling of how marvelous chemical research really was. I'd look at all the books in the research library and think, "My goodness, do I have to know all that? What's the use of doing research on new things until you know all that?" And that seemed to me hopeless. So, I just did the best I could.

POWELL: The professors didn't emphasize research at that time so much, either.

HOUSE: The two chemistry professors at the time were Howard Lucas and Stuart Bates. And they, I know, were very much research-minded, both of them. They were very able teachers. And so the school was moving in the direction of research. I can tell you a little more about the way those steps seemed to come to me. But in the school at that time, analytic geometry based on the ideas of Descartes, on the relation of algebraic equations to the shape of a curve—that appealed to me enormously. And I enjoyed that subject tremendously. Then came descriptive geometry, in the drawing course. How to rotate planes this way and that way and do things of that sort. Well, the whole year was—that freshman experience was—really a delight to me.

Of course, I wanted to do well in scholarship, but I was also, as I said, very much devoted to the church. While I'd been going to a little sort of neighborhood church in Los Angeles on the Westside, I decided this time I'd go to a church that had real cultural benefits. My father knew the minister, and I just went to the Pasadena Presbyterian Church and the first Sunday went down and announced myself to the minister, Dr. [Robert] Freeman, and said, "This is where I am, and this is where I'm staying for the next several years." So, I put away all my books Saturday night, and for the entire college experience I, to my knowledge, never cracked a book on a Sunday. Now, this wasn't that I was fundamentalist in my desire to abide by the commandment "Thou shalt

not work on the Sabbath day.” It wasn’t that. I just had the feeling that I would do as well or better if I had one day that was devoted to that side of my life completely.

I went to Sunday school in the morning and then to church, and then to the Young People’s Society in the afternoon, and then to church at night. And listened to two sermons a day, plus the many other benefits and things the church brought—the music, the poetry. Dr. Freeman was a master of diction, great English; the music was superb, and the whole atmosphere of the church in the evening with those great lanterns dimly lit—the whole thing appealed to me dramatically. And I’m sure it affected my life. I was enjoying such superb health that every night after church I would run home the couple of miles or so to where we lived.

POWELL: Did you have inspiration at school?

HOUSE: I had inspiration both in school and in church.

POWELL: Did you have any feel of Scherer’s interest in religion—the fact that he’d been a preacher? Did he carry that over into his work?

HOUSE: Oh yes, I think by all means he surely did. He had us all saying the Lord’s Prayer the first thing at every assembly. I participated, and I also listened with a trace of amusement at the piety of all these fellows, including a liberal sprinkling of roughnecks whose language, according to my standards, in the locker room didn’t always agree with the piety expressed during the assembly, at the recital of the Lord’s Prayer.

POWELL: These were the students, you’re talking about?

HOUSE: Yes, I’m talking about the students. So, I hope I’ve grown. I had a bit of a critical attitude at the time, which I’m happy to say I think I’ve pretty well outgrown, in understanding and loving my fellow human beings, however they may be.

POWELL: There was some emphasis on the humanities here.

HOUSE: Oh, yes. Of course. Professor [Clinton K.] Judy was in a sense the great oasis. Now, the other classes, the technical classes, were hard, and although I enjoyed them, I went to the class in English, and that was just pure relaxation and enjoyment, pure enjoyment. And I think there was one other student there who shared this interest. There may have been some others, but there was quite a sprinkling of those who took this more or less as a required course. But there was one other student who loved it, I'm sure, as much as I did, and his name was Frank Capra.

POWELL: Oh, the movie man.

HOUSE: Yes. He later produced *Lady for a Day* and *Mr. Deeds Goes to Town*—you know, all those—and we always sat together during our freshman year, both semesters, in the front seat. In reflecting on this thing, I have the feeling that we encouraged Professor Judy probably as much as he encouraged us. Because I have to admit, some of these guys were a little bit tough to get the arts and the humanities across to.

POWELL: Were there other courses you took besides English that related more to the humanities? Did they have social science or something?

HOUSE: One of the things in the catalog at the time was that we had four years of humanities, and this was emphasized. I don't recall if we had another course at that same time. I think not, but in the sophomore year, Dr. Scherer taught a course in the Industrial Revolution of England. His text was a book he himself wrote, which featured the place of cotton in the history of industry.¹ That opened my eyes to the importance of the Industrial Revolution in England. Got me interested really in history. Oh, I was going to say about Professor Judy: He taught me to write, and this of course has helped over the years. When I got into a job that required me to write research reports, I had the confidence that I could write.

POWELL: How did he do this?

¹ *Cotton As a World Power* (New York: Stokes, 1916).

HOUSE: He had a text, and he made us write and he made us examine every paragraph, every sentence, every clause. He had a little textbook, which featured this over and over again. He reinforced it by his eloquence: “Unity, coherence, and emphasis.” Your theme had to not only show unity but every part of it had to show evidence of unity. It had to flow from one place to another. It had to be coherent. And it had to have emphasis somewhere. It didn’t matter much where you put the emphasis, but you had to have a punch line somewhere. It had to all be about one theme; even if you scattered around, you had to show how every part of it was related to your central theme. This was the one subject—that and history—throughout the four years in which I invariably got the highest grade possible. In some of the other subjects, I wasn’t in that area. I will say this, that one of the professors, Professor Lucas—I think I’d gotten a below-average grade mark in one of his classes; I certainly did in theoretical chemistry—well, he said to me, “Harvey, don’t be too much troubled by that. We try to make our standards such that even if you are below average in something, you’re still pretty good.” Very encouraging.

But back to that wonderful freshman year. That was before we became militarized. The war was just beginning to brew, as far as we were concerned at the time. At the end of the freshman year, I got a job as a steelworker at the Baker Iron Works. I was very proud of myself, that I could shinny up a column and walk on a beam from one column to another, like a steelworker.

POWELL: Was this after you left school?

HOUSE: Only for the summer. I remember [riding by this plant on the] streetcar. All the rattle and slam-bang there appealed to me. It was dramatic. So, I went down there one morning, and I said to the man who was superintendent at the gate, “Here, I want the hardest job you’ve got in the place.” Old Horatio Alger success stuff, you know. He said, “Well, come back tomorrow morning, and if you have that spirit, I’ll give you a job.” He didn’t say it was the hardest job in the place, but I believe it was. Putting up those steel beams by hand and hauling the columns on hand-driven trucks all over the place, then pulling the beams up by hand-pulled pulleys.

POWELL: You did that for the summer?

HOUSE: To the ultimate. Every hour for nine hours. During the summer.

I've looked forward to this interview, partly because, to me, it's an opportunity to give credit to Dr. Scherer especially and the other teachers of that period. As I say, Dr. Scherer was an inspiration to everybody. He was well liked by the students and I've sometimes felt that he hasn't been given the recognition that his memory was due on the campus. I once spoke to a fellow alumnus about getting some kind of a fund or something that would be a memorial to Dr. Scherer. I'd still like to see that happen, because he was really the one who in our opinion pulled this thing together.

But going on to other items: In that first year, we all had the privilege of small classes. The teachers in those classes were all dedicated and good. I remember only one or two upperclassmen who were used for instructors, and they were very competent.

Oh, I didn't tell you about the two things that might interest people now: the athletics. I determined that when I got to college, first of all, I would try to participate more in the college life than I had in high school life. I had, in a way, one detriment—I stammered. And it wasn't until much later—I think it was in the year after I graduated—that I took some special training and overcame that. But that's neither here nor there; it didn't bother me very much in my college work. But wanting to be in football, I went out for football, and it was quite an experience. To get our uniforms—I think the fellows who'd already been on the team may have selected their uniforms or held them from the past year. But some of us new guys were shown a pile of miscellaneous items on the floor and were invited to pick out whatever we could find that might fit us. I succeeded in getting most of the items needed, except a pair of shoes. The pair that I found hurt my feet terribly, at least with those spikes coming up through the soles, but maybe I got better shoes later, I don't know. But I think some of the people in the sports department now might be amused to know how we made out with our uniforms. We had a great big husky coach, Dr. Baer, who was also in charge of the health of the students. He had been an All-American choice, I think. So, from there on, I was on the scrub team for four years and never made the first team or a letter. But I enjoyed the slam-bang of it and had no regrets.

Then came the pole rush. That was one of the first pole rushes, and I was assigned the task of representing the freshmen to plow through the sophomore line and get hold of the pole, the greased pole, and hang on to it while all the other freshmen crawled over my body to try to reach the flag on the top. I suppose it went very much like pole rushes have since then. But it was a bit of a rugged experience. Then came the Big T. I think I was on the first group that went up onto the mountain and dug out the Big T.

POWELL: What was the Big T?

HOUSE: The Big T was the letter that was carved out of the mountain and visible from the college campus. I think it's all but obliterated now, but for years and years the freshman class went up every year to clean it off. As I recall, the size of the T must have been well over an acre. It was a huge affair. But to make the T look right from down here, in spite of being on a diagonal complicated slope of the mountain, the upper classmen had it organized in a way that I greatly admired. They had a telephone system from a viewing point at the college to a point on a mountain to which there was a telephone connection. And then from there they semaphored over to the site of the T and directed the outlining of the T from the college campus, so it would look like a T from here. I was most impressed with that demonstration of skill. The whole college went up—it wasn't just the freshmen—to dig it out.

POWELL: What did you do—just dig out the dirt, the soil?

HOUSE: We had hatchets, I guess it was mostly hatchets, and we chopped down the brush and rolled the brush downhill mostly to the bottom and to the side. We must have built up a formidable pile of inflammable brush, robbing the ground of its vegetation to prevent erosion. It seems to me, as I reflected upon the matter later, that it was altogether contrary to the basic rules of conservation. But nobody thought quite so much about that in those days as they do now. So, we went up there and worked it out, sweated it out for the day.

I was then living in Lamanda Park, and I recall coming down late in the afternoon all sweaty and dirty and exhausted from the day's exertions. I was going to a church party that night, with the inestimable privilege of expecting to meet a lot of girls. So, I had my friend take the hose—the only way I had of taking a bath was after sundown, just get out there and get hosed off. So, I got outdoors in a private place and had my friend hose me down, and soaped myself all over, and washed myself off with a hose, which at that season of the year was a bit cold. But we had youth to go on. So, it was great.

POWELL: Now, that's not exactly in the form of a prank, but were there pranks on the campus? For instance, I understand you climbed up in the cupola.

HOUSE: Well, that didn't come till later. I think that was during the military period. It must have been during the ROTC. One young fellow who had the reputation of being—and who was indeed—an extremely sound sleeper was picked up, bed and all, from the place where he lived, the dorm or whatever, and carried up on his bed to I think it was Colorado and Wilson. It was up on Colorado Boulevard—Colorado Street they called it then. And he and his bed were just set there on the corner and left. I don't know the rest of the story. I can imagine him waking up and running to get back home in his pajamas. I suppose the guys may have helped him carry his bed back. That was one of the main pranks.

POWELL: Do you want to talk a little bit about the military feeling on the campus?

HOUSE: Oh yes, that came in my second year. Dr. Scherer was very, very much concerned about the unpreparedness of America. He may have brought speakers on that subject to [the campus] even during the latter part of my freshman year. So, we were being keyed up to the necessity for preparedness. During my sophomore year, which began in the fall of 1916, it was going in earnest, and it was during that year he organized the whole college, or most of it, into an ROTC, and I recall we were all in uniform.

POWELL: Everybody had to participate in it?

HOUSE: I'm not sure that the students were required to participate, but it was the thing to do. Most of us did. And I think it was during that period that, so far as I know, none of us had any conflict whatever between preparing for war and any religious scruples. We heard about such things as pacifists, but if they existed at all, they were certainly downgraded.

POWELL: Scherer himself apparently did not have a pacifist's viewpoint?

HOUSE: He was very, very much in favor of military preparedness as a necessity to preserving the Kingdom of God on the earth. You will remember, of course, Woodrow Wilson was elected a little later, on the ground that he had kept us out of war, after which of course he forthwith got us into war. But anyhow, we all were sold on the idea of being prepared, as a means for defending everything that was good and holy in life. This later turned into a war to preserve the earth for democracy, and we all believed it devoutly.

POWELL: You were too young for conscription.

HOUSE: Yes, I was too young at the time for conscription, but I had no doubts about the rightness of the direction, and I won't be critical now. I think now I'm not an extremist on that matter. But anyway, it was the thing to do, and most of the students were in uniform; and every day we drilled, and we were quite proud of ourselves. And held bayonet practice, learning how to stick bayonets into bundles of sticks to get practice on defending the earth.

A group of us, I think it was during Christmas vacation, went up to a YMCA conference at Asilomar [California]. We were very much inspired by J. Stitt Wilson, who had been the Socialist mayor of Berkeley, and quite an orator. I still remember his inspiring us with the words from the Book of Micah: "What doth the Lord require of thee, but to do justly, and to love mercy, and to walk humbly with thy God?" Those words have been ringing in my consciousness pretty much ever since. Well, this group, on coming back, formed a little circle, and to continue our spiritual exercises we got a Baptist minister I knew from Los Angeles, who came out once a week, and he met with

us up in that high cupola in Throop Hall. We met up there and studied the Bible, and I guess there were half a dozen of us that found mutual support in this group.

POWELL: Why did you meet in the cupola?

HOUSE: It was a convenient place to meet.

POWELL: And it was available?

HOUSE: It was available. I don't refer to the little tiny cupola that you had to climb to get into. This was the round tower, which was easily reached. So, we had our little class up there, and after a while got to feeling that we ought to have an organized YMCA at Caltech for the benefit of us all and to assist, to encourage, the students in their spiritual quests. So we got a fellow by the name of Gale Seaman who was a secretary in the Los Angeles YMCA, to come out and talk to us, and after several such meetings we organized a Y under the leadership of Seaman. There was something official that had to be done to make us officially schoolwide. So, we all signed a document requesting Gale Seaman and the Y organization to create here at our college an official student YMCA. I was one of the dozen or so charter members of that group. I'm very happy to reflect on the growth of that and the very broad scale of benefits that I think it has brought to all the students. They have a very much broader view of things than we had then.

POWELL: But primarily a Christian emphasis?

HOUSE: Primarily a Christian emphasis at the time. I'm very happy to see that it broadened out in such a helpful way to all students, regardless of religious affiliation or non-affiliation, or whatever.

POWELL: While you were here, Dr. [Robert Andrews] Millikan began to come—

HOUSE: That came later [Millikan visited as director of physical research in 1916-17 and came full-time in 1920—ed.]. But in my sophomore year, when we all went into ROTC,

that was the military year, as I remember it, with Dr. Scherer promoting all of this. Now, out of this grew a unit that went to Italy, an ambulance service, and this was organized by Dr. [Charles D.] Lockwood. I was in that group at the start but didn't go on with it.

POWELL: Was he on campus?

HOUSE: No.

POWELL: He was at the Huntington or the Pasadena Hospital.

HOUSE: Yes. He was a well-known doctor in Pasadena who had this tremendous concern.

POWELL: He headed the ambulance corps, as I recall.

HOUSE: Yes, one of my friends, by the name of Edgar Parmelee, was in that corps and went to Italy and served in that capacity during the war.

POWELL: So these were Caltech students?

HOUSE: Yes, I think they were mostly Caltech students.

POWELL: Did they break their classes and go?

HOUSE: I'm not sure how that was. They may have carried through to the end of the year and then gone, and lost a year or so, as many of us did in other ways. Some of the students, Frank Capra included, [were gone] during the next year when I was absent. I went East during the next summer.

POWELL: That was 1917.

HOUSE: Yes. That should have been my third year, beginning in the fall of 1917. My family went east to the family homestead in Saugatuck, Michigan, and I worked on the

farm, feeling I was doing a patriotic duty to work on the farm, and then, in response to my father's wish, went down to Maryville College, in Tennessee, to have a year of college in an old-fashioned classics school. That was a happy experience on the whole. My father went into the YMCA in San Diego, and to make a long story short, my mother couldn't live without me. I was the only child, and she became ill, and Father said I'd have to come home. So, about Christmastime, I came home. And coming home with limited means, I had to stay overnight in a very, very cold hotel in New Orleans without adequate bedding, and my health began to run down.

I came back to San Diego, and my father got me a job in the Army Y in Camp Kearny. And so, in a few days I was out there at Camp Kearny and in a YMCA uniform waiting on the boys in a Y hut. It was work that I enjoyed, and I felt in a way I was doing my part. And so, I lived and ate with the soldiers and felt myself as a sort of soldier. One night I felt a fever, and I got hotter and hotter, and the doctor said, "Hospital for you." It was scarlet fever. We had an epidemic of scarlet fever in the camp, and I got all of it. I came down with scarlet fever and then pneumonia, then what they call empyema, which was very serious at that time, with no antibiotics. After two months in the Army hospital, I was discharged and went home to Imperial Beach, where my father was in the Y work with the Air Corps. But the fever came back, and I had to go back to this county hospital in San Diego. And all that time, in the Army hospital and Camp Kearny and in the hospital in San Diego, I can't help but remember how gracious and kind everybody was. In the Army hospital, the nurses were all jolly, and it was generally a happy environment in spite of the misery going on around us. There was a spirit that, after all, this war was for a good cause, and there was a great patriotic spirit [that] pervaded everybody at that time, including myself.

POWELL: Were you all this time thinking about coming back to Caltech to finish your studies?

HOUSE: Yes, I was. After that period in Tennessee, while it was a pleasant enough experience, I decided that Caltech was for me. So, in spite of that very serious illness, it's hard to believe this, but I was drafted, and then the Student Army Training Corps was

established at Caltech. President Wilson wanted the college boys to stay in college and be trained for military service while continuing their college work, on the grounds that the country, after all, needed trained people. In spite of the fact that I'd just recovered from this extremely serious illness, once I recovered it seemed to me it was over. And my health came back to me in leaps and bounds. I was accepted in the Student Army Training program for limited service. Now, what that meant I don't know. I was in the Army and proud of it. We had a great outfit, two companies, and we drilled and trained ourselves with diligence and precision and we were very proud of ourselves.

POWELL: Was this in addition to the ROTC, or did this replace it?

HOUSE: No. The ROTC had been disbanded during the previous year and many of the fellows had been pushed through to graduation more rapidly and went into the service. I think that was called the Class of War, '18. And the class of '19, which was my class, pushed through and got their degrees in [September] 1918 and many went into the service immediately.

All the ministers supported the war, to my knowledge. The country totally. There wasn't a hint of any of the opposition that developed during the Korean and especially the Vietnam [wars], not a hint of this kind of thing. The songs I still remember, the pep songs we sang in the Student Army Training Corps. People would come and lead us in singing.

POWELL: Was there a band, too?

HOUSE: Oh, we had a band—yes indeed. The Armistice came before we had our uniforms, though we had uniforms during the ROTC period, but there had been such a demand for uniforms when we were really in war that we had to get along with what we had. Some just wore civvies in the Student Army Training Corps until after the Armistice. Then we got uniforms.

POWELL: Did you continue in this training?

HOUSE: Well, we wanted to. We thought, “Oh my goodness, we have such a wonderful outfit,” and our captain said to us, “Gentlemen, I am sure that the Army will not allow this wonderful outfit to break down,” and so we all wanted it to stay. But we were demobilized. I well remember the time of the Armistice—there were two Armistices, you know; one of them was a false alarm, and I’ve forgotten now whether we paraded on that false alarm or the other one. But I think it was for the final Armistice that we all got out with our bands.

POWELL: That was on the 11th of November.

HOUSE: The 11th of November, and we all got out with our bands and formed our two companies and proudly marched downtown, starting at the west end of Colorado Boulevard and marching all the way up to, I guess it may have been Wilson Avenue and marching back to our barracks. I will say that I think we marched well and were very proud of ourselves, our flags waving and the bands playing. At the end of the line, I remember well, an older gentleman talked to some of us and he said to us, “Look boys, don’t worry, you’re just as good as the ones who got across.” So, everybody was that way.

POWELL: Then you had to buckle down and go back to your studies. Could you talk a little about Dr. Robert A. Millikan and your awareness of his coming?

HOUSE: Oh, yes. Dr. Scherer went East, and we all knew he was going East for some big money. I think Dr. Millikan in the meantime delivered a lecture. He’d come and visited Caltech, and whether it was before or after the announcement I don’t remember, but it’s on the record somewhere—he came back and delivered his famous lecture on the oil-drop experiment. I remember that was done in our assembly room, which was still in Throop Hall.

POWELL: All the students attended?

HOUSE: All the students attended, and I can remember how thrilled I was at the clarity of his exposition and the excellence of the whole presentation, and how it delighted me. It was either soon after or before that that Dr. Scherer returned from his trip East. Let's see, by that time we had moved our assembly across the hall—and he had an important announcement to make. He announced that the Rockefeller Foundation had made a very substantial gift to Throop College of Technology. He announced that Dr. Millikan was coming to become the head of the institute. I think the thing emphasized at the time was to develop research in physics, and that the name of this college from henceforth would be the California Institute of Technology. At which there was a great howl of admiration and excitement, and one fellow from the back said, "Hooray for Caltech!" And Dr. Scherer raised both hands and said, "Oh please, don't abbreviate it." [Laughter] He might as well have tried to sweep back the ocean.

POWELL: It was initiated right then and there.

HOUSE: It was initiated right then as Caltech.

POWELL: Didn't he announce that he was leaving at this time?

HOUSE: I don't recall. He left soon after that. I think it was partly ill health that had something to do with it.

POWELL: Then you graduated, in 1920?

HOUSE: In 1920, in June.

POWELL: What kind of ceremonies did you have for your graduation?

HOUSE: Our ceremonies were in front of the Gates Laboratory [of Chemistry]. All the dignitaries were on the east porch of the Gates Laboratory. We all sat in front of that, and all the seniors in the front row and the guests behind the seniors. Dr. Millikan and others were all up there on the platform, and there was the usual address, and I remember very

well going and getting my degree and shaking hands with Dr. Millikan as he gave it to me.

POWELL: Was Dr. Scherer still there, or perhaps he had left by that time?

HOUSE: I just don't remember. I know in 1926 I got a master's degree.

POWELL: Here?

HOUSE: Here, and Dr. Millikan handed that to me, and it was just possible that Scherer may have been the one that handed out the diplomas in 1920, though I think not.

POWELL: Well, that's probably in the record, but you remember the excitement.

HOUSE: I had a great senior year. It was a lot of fun.

POWELL: And, all in all, you felt that your experience at Throop or Caltech was top-notch?

HOUSE: It just made me. I never have gotten over my gratitude for having gotten a technical education with also exposure to the humanities, of which the church was a pretty big element.

POWELL: And your degree was Bachelor of Science in Chemistry?

HOUSE: Bachelor of Science in Chemical Engineering, yes. I had written an essay in the church on the subject of how I will use my profession or my training to serve God in some way. I had the feeling that if I could put my Christian faith and my engineering together, I could go back to my native land and help build industry for the benefit of the people, so I wrote about how I would build a soap factory in China to do this. And after graduation I got a job in the Los Angeles Soap Company factory. It was an interesting career, beginning at the very bottom and moving up, and then after a year I was invited to

go to Canton to teach chemistry, so I had two beautiful years in Canton, after which my illness came back on me and I had to come back to Pasadena.

POWELL: Well, it's been an interesting time.

HOUSE: Yes. It's been interesting to me, and I'm happy I've had this chance to say these words on behalf of Throop College of Technology that was, and those who made it into Caltech.